DESCRIPTION

Designed to retain the aesthetics of a commercial wraparound, Fail-Safe's FWS Series assures owners an unbreakable, maintenance free, one time installation. Ideally suited for high abuse areas that must maintain a clean, well lighted appearance, Fail-Safe's FWS comes as ceiling or wall mounted, one to four lamp units to provide general ambient illumination.

The FWS Series is specifically designed for use in public access areas where vandalism may occur and for areas that must maintain a clean, well-lighted appearance. Ideal for schools, dormitories, hallways, locker rooms, shower facilities, and restrooms.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

A ... Lens
Nominal .156, UV stabilized, clear K12, impact resistant, prismatic polycarbonate refractor for high efficiency, low surface brightness and maximum strength.

B ... Fasteners
Captive, stainless steel tamperproof torxhead screws prevent unauthorized access.

C ... Housing
Die-formed 16 ga. CRS with welded and ground ends and internal weld bands for added strength. Standard white high reflectance polyester powder coat finish. Gloss: 85%; Reflectance: 93%; Hardness Minimum: 2H; Salt Spray: 500 hours.

D ... Lamps
(By Others)

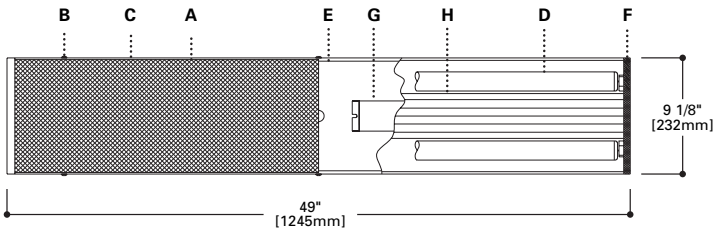
E ... Lens Retention
Double wall lens channel captivates lens to prevent unauthorized fixture penetration.

F ... Gasket
Concealed, polyurethane end gaskets inhibit the entrance of environmental contaminants.

G ... Ballast
Copper wound HPF, rapid start, Class P, CBM/ETL ballast is standard.

H ... Power Module
Full length, removable, CRS power module with center "V" facilitates maintenance and protects lamps from shock and impact.

Labels
U.L. listed, C.S.A. certified, standard wet label.

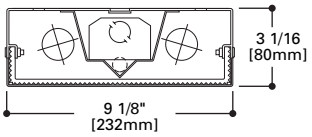


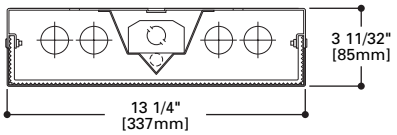
FWS

17W - 160W
Fluorescent

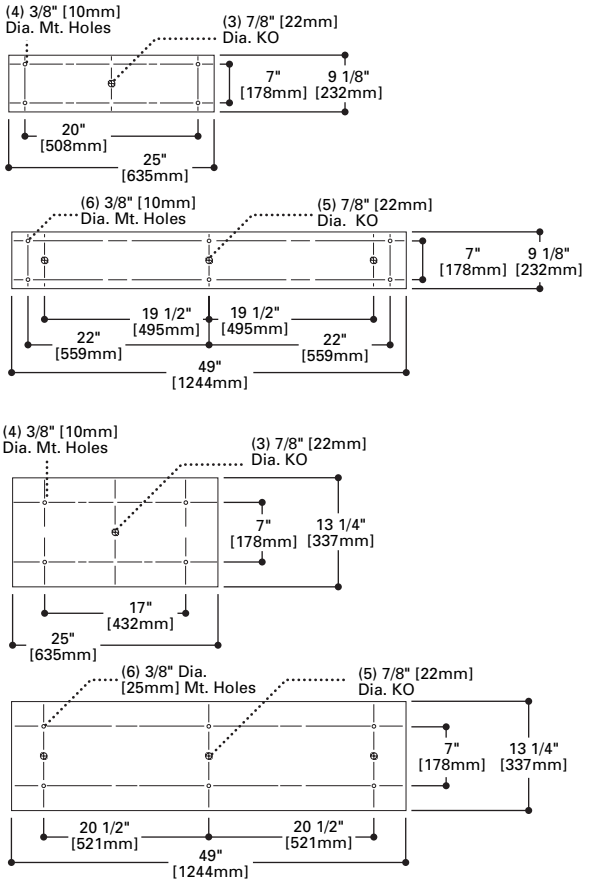
POLYCARBONATE
HIGH ABUSE LUMINAIRE
Clear Prismatic or White
2 and 4 Lamp

SIDE DIMENSIONS





MOUNTING DIMENSIONS



TORX® is a registered trademark of Camcar Division of Textron Inc.

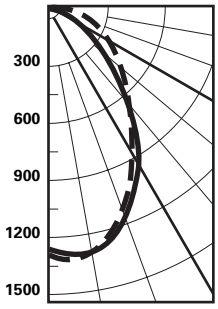
ENERGY DATA

For Energy Management related technical data to support the performance of this fixture series, refer to the ordering information for input wattage.

Specifications and Dimensions subject to change without notice.
Consult your representative for additional options and finishes.

PHOTOMETRICS

Candlepower Distribution



Test No. 1824
FWS-240
Lamp=(2) F40T12RS/WW
Lumens=3200
Spacing Criteria
⊥=1.1 ||=1.1
Efficiency=40.2%

— — ⊥
——— ||

Candlepower

Deg.	⊥	||
0	1291	1291
5	1293	1296
15	1207	1213
25	1061	1073
35	777	829
45	476	414
55	375	192
65	299	77
75	260	50
85	181	16
90	141	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	961	15.0	37.4
0-40	1460	22.8	56.8
0-60	2008	31.4	78.1
0-90	2425	37.9	94.3
90-180	146	2.3	5.7
0-180	2571	40.2	100.0

Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%
rw	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR														
0	47	47	47	47	46	46	46	43	43	47	47	39	39	38
1	44	42	40	39	41	39	38	39	36	37	35	35	34	33
2	40	37	35	33	36	34	32	35	31	33	30	32	29	28
3	37	34	31	29	33	30	28	31	27	30	27	29	26	25
4	35	31	27	25	30	27	25	29	24	27	24	26	23	22
5	32	28	24	22	27	24	22	26	21	25	21	24	21	20
6	30	25	22	20	25	22	20	24	19	23	19	22	19	18
7	28	23	20	18	23	20	18	22	17	21	17	20	17	16
8	26	21	18	16	21	18	16	20	15	19	15	19	15	14
9	24	19	16	14	19	16	14	18	14	18	14	17	13	13
10	23	18	15	13	17	14	13	17	12	16	12	16	12	11

rc=Ceiling reflectance, rw=Wall reflectance, RCR=Room cavity ratio
CU Data Based on 20% Effective Floor Cavity Reflectance.

ORDERING INFORMATION

SAMPLE NUMBER: FWS-440-120-LE3-GLR

Product Family
FWS
- **FWS**=High Abuse Surface Luminaire

Lamp Type
2′
- **217**=(2) 17W T8 Lamp
- **417**=(4) 17W T8 Lamp
- **220**=(2) 20W T12 Lamp[2]
- **420**=(4) 20W T12 Lamp[2]
- **240BX**=(2) 40W Biaxial Lamp
- **440BX**=(4) 40W Biaxial Lamp

4′
- **232**=(2) 32W T8 Lamp
- **432**=(4) 32W T8 Lamp
- **240**=(2) 40W T12 Lamp
- **440**=(4) 40W T12 Lamp

Voltage[3]
- **120**=120V
- **277**=277V
- **347**=347V

Ballast[3]
- **LE3**=Energy Saving Ballast
- **LEOC8**=Energy Saving Ballast for use with T8 Lamp

Electronic Ballast[1]
- **EB81**=(1) Ballast for use with T8 Lamp
- **EB82**=(2) Ballasts for use with T8 Lamp
- **EB21**=(1) Ballast for use with T12 Lamp[2]
- **EB22**=(2) Ballasts for use with T12 Lamp[2]
- **EBX1**=(1) Ballast for use with Biaxial Lamp
- **EBX2**=(2) Ballasts for use with Biaxial Lamp

Options
- **EBP**=Emergency Battery Pack
- **ELR**=End Lens Retention
- **FNL**=Fluorescent Night Light (Lamp by others)
- **FNL13**=Fluorescent Night Light (13W Lamp. Lamp by others.)
- **GLR**=Fuse and Holder
- **OPL**=Opal Diffuser
- **RIF**=Radio Interference Filter
- **SPS**=Security Push Button On/Off Switch

Accessories (order separately)
- **VRSD**=TORX®-Head Vandal Resistant Screwdriver

Notes:
For additional options consult Cooper Lighting Representative.
Specifications and Dimensions subject to change without notice.

[1] For specific electronic ballast, specify brand and catalog number.

[2] Electronic ballast not available with F20T12 lamps.

[3] Products also available in non-US voltages and 50Hz for international markets. Consult your Cooper Lighting Representative for availability and ordering information.